

REMARKS

This Reply is in response to the Office Action mailed on March 9, 2007 in which claims 8-16 were objected to and in which claims 1-7, 17-20 and 31-45 were rejected. With this response, claims 2-6 and 21-30 are canceled; claims 1, 7-11 and 17 are amended; and claims 46-59 are added. Claims 1, 7-20 and 30-59 are presented for reconsideration and allowance.

I. Rejection of Claims 1-2, 31-35 and 39-45 under 35 USC 102(e) Based upon Ferencz

Section 3 of the 102 rejection section of the Office Action rejected claims 1-2, 31-35 and 39-45 under 35 USC 102(e) as being anticipated by Ferencz et al. US Patent 6,678,175. Claim 2 is canceled. Claims 1-2, 31-35 and 39-45, as amended, overcome the rejection based upon Ferencz.

A. Claim 1

Claim 1 is amended to incorporate the limitations of former dependent claim 6. Claim 1 now recites an AC switching circuit.

Ferencz fails to disclose an AC switching circuit. In fact, Ferencz merely discloses a full bridge driver for a DC circuit. Nowhere does O'Brien ever mention that the disclosed circuit may be used to switch an alternating current.

The Office Action rejected former claim 6 under 35 USC 103 as being unpatentable over Ferencz. However, the Office Action fails to establish even a prima facie case of obviousness with regard to claim 6. The Office Action failed to even allege where Ferencz discloses an AC switching circuit or how or why one of ordinary skill in the art would modify the circuit of Ferencz to alternatively include an AC switching circuit. Accordingly, claim 1, amended to incorporate the limitations of former claim 6, overcomes rejection based upon Ferencz.

B. Claim 31

Claim 31 recites a snubber circuit which includes (1) a first energy storage device, (2) circuitry coupled to the first energy storage device to facilitate capturing, by the first energy storage device, energy of a switching circuit and to facilitate resetting of the first energy storage device; and (3) a second energy storage device coupled to the first energy storage device to store the captured energy and to provide at least a portion of the captured energy to a control circuit.

Ferencz fails to disclose a snubber circuit including a first energy storage device that captures energy of a switching circuit and a second energy storage device coupled to the first energy storage device that stores the captured energy. In fact, the Office Action fails to establish a prima facie case of anticipation with regard to claim 31. Nowhere does the Office Action even allege how Ferencz supposedly discloses each of the noted limitations of claim 31. Accordingly, the rejection of claim 31 is improper and should be withdrawn.

C. Claim 33

Claim 33 depends from claim 31 and further recites that the switching circuit is an AC switching circuit.

As noted above with respect to the rejection of claim 1, Ferencz fails to disclose an AC switching circuit. In fact, Ferencz merely discloses a full bridge driver for a DC circuit. Nowhere does O'Brien ever mention that the disclosed circuit may be used to switch an alternating current. Once again, the Office Action fails to establish a prima facie case of anticipation with regard to claim 33 by failing to even allege where Ferencz supposedly discloses an AC switching circuit. Thus, the rejection of claim 33 is improper and should be withdrawn for this additional reason.

D. Claim 39

Claim 39 recites a method of supplying power to control circuit. The method includes capturing energy of a switching circuit in a first energy storage device, providing at least a portion of the captured energy in the first energy storage device to a second energy storage device

and providing at least a portion of energy stored in the second energy storage device to power a control circuit.

Ferencz fails to disclose a method of claim 39. Ferencz fails to disclose capturing energy of a switching circuit in a first energy storage device, providing is a portion of the captured energy in the first energy storage device to a second energy storage device and providing at least a portion of energy and the second energy storage device to power a control circuit. As noted above with respect to the rejection of claim 31, the Office Action fails to establish even a prima facie case of anticipation by failing to allege where Ferencz supposedly discloses such limitations. Accordingly, the rejection of claim 39 is improper and should be withdrawn.

E. Claim 41

Claim 41 depends from claim 39 and further recites that the switching circuit is an AC switching circuit.

As noted above with respect to the rejection of claim 39, Ferencz fails to disclose an AC switching circuit. In fact, Ferencz merely discloses a full bridge driver for a DC circuit. Nowhere does O'Brien ever mention that the disclosed circuit may be used to switch an alternating current. Once again, the Office Action fails to establish a prima facie case of anticipation with regard to claim 41 by failing to even allege where Ferencz supposedly discloses an AC switching circuit. Thus, the rejection of claim 41 is improper and should be withdrawn for this additional reason.

F. Claim 43

Claim 43 recites a snubber circuit. The snubber circuit includes means for capturing energy of a switching circuit in a first energy storage device, means for providing at least a portion of the captured energy in the first energy storage device to a second energy storage device and means for providing at least a portion of energy stored in the second energy storage device to power a control circuit.

Ferencz fails to disclose a snubber circuit of claim 43. Ferencz fails to disclose capturing energy of a switching circuit in a first energy storage device, providing is a portion of the captured energy in the first energy storage device to a second energy storage device and providing at least a portion of energy and the second energy storage device to power a control circuit. As noted above with respect to the rejection of claim 31, the Office Action fails to establish even a prima facie case of anticipation by failing to allege where Ferencz supposedly discloses such limitations. Accordingly, the rejection of claim 43 is improper and should be withdrawn.

II. Rejection of Claims 3-7, 17-20 and 35-38 under 35 USC 103(a) Based upon Ferencz

Section 2 of the 103 rejection section of the Office Action rejected claims 3-7, 17-20 and 35-38 under 35 USC 103(a) as being unpatentable over Ferencz et al. US Patent 6,678,175. Claims 3-6 are canceled. The rejection of claims 7, 20 and 35-38 should be withdrawn following reasons.

A. Claim 7

Claim 7 depends from claim 1 and recites that these numbers are comprises a first look at the circuitry to provide charge for storage on a charge storage device during a first phase of an AC flow and second political circuitry to provide charge for storage on the chart storage device during a second phase of the AC flow.

As noted above with respect to the rejection of claim 1, Ferencz has nothing to do with an AC switching device. Ferencz has nothing to do with storing charge during phases of an AC flow. Moreover, it would not be obvious one or news coming art to modify Ferencz first is somehow worked with an AC flow. In fact, the Office action fails to establish a prima facie case of obviousness by failing to allege where Ferencz allegedly teaches storing charge during an AC

flow or to allege any motivation for such a modification to Ferencz. Thus, the rejection of claim seven is improper and should be withdrawn.

B. Claims 17-20 and 35-37

Claims 17-20 and 35-37 depend from claims 1 and 31, respectively. Claims 17-20 and 35-37 overcome the rejection they spun Ferencz the same reasons discussed above with respect to the rejection of claims 1 and 31 days upon Ferencz.

C. Claim 38

Claim 38 depend from claim 31 and recites that at least one of the first and second energy storage devices comprises an inductor.

As noted above with respect to the rejection of claim 31, Ferencz fails to disclose a snubber circuit including a first energy storage device that captures energy of a switching circuit and a second energy storage device coupled to the first energy storage device that stores the captured energy. Moreover, Ferencz fails to disclose a snubber circuit where one of the energy storage devices comprises an inductor. The office action fails to even establish a prima facie obviousness by failing to allege where Ferencz disclose such a energy storing inductor and by failing to allege any such modification for such a modification to Ferencz. Accordingly, the rejection of claim 38 should be withdrawn.

III. Added Claims

With this response, claims 46-59 are added. Claims 46-59 are believed to be patentably distinct over the prior art of record.

A. Claims 46, 52 and 56

Claims 46, 52 and 56 each recite that the switching circuit has a first transistor and a second transistor and wherein the first transistor and the second transistor have source terminals

connected in common. Support for added claims 46, 52 and 56 may be found in at least Figures 9-13. Thus, no new matter is added.

The prior art of record, including Ferencz, fails to disclose such a switching circuit. In contrast, in Ferencz, the source terminal of one transistor 610 is not connected to the source terminal of transistor 614. Rather, the source terminal and the drain terminal of the transistors are connected in common. Accordingly, claims 46, 52 and 36 are presented for consideration and allowance.

B. Claims 47 and 53

Claim 47 and 53 each recite that the switching circuit includes a snubbing capacitor and a current limiting device, wherein the switching circuit is configured to switch the current limiting device into circuit when the first snubbing capacitor is reset. Claims 48 and 54 depend from claim 47 and 53 and further recites the current limiting device is a resistor. Support for added claims 47, 53, 48 and 54 may be found in at least Figures 9-14. Figures 9-13 illustrate an AC switching device while Figure 14 illustrates a DC switching device.

Ferencz fails to disclose a switching circuit that includes a snubbing capacitor and a current limiting device, wherein the switching circuit is configured to switch the current limiting device into circuit when the first snubbing capacitor is reset. As a result, the circuit of Ferencz may experience much larger turn on losses. Accordingly, claims 47, 53, 48 and 54 are presented for consideration and allowance.

D. Claims 49, 51 and 55

Claims 49, 51 and 55 recite that the current limiting device is switched into circuit during reset of the capacitor comprises an inductor. As a result, the switching circuit is able to pump charge during snub and during reset of the capacitor. Support for such added claims may be found in at least Figures 11 and 14. Thus, no new matter is added.

The prior art of record, including Ferencz, fails to disclose a switching circuit having a current limiting device that is switched into circuit during reset a capacitor, wherein the current limiting device comprises an inductor. Accordingly, claims 49, 51 and 55 are presented for consideration and allowance.

E. Claim 57

Claim 57 depend from claim 53 and recites at the switching surfing comprises an AC switching circuit including a second snubbing capacitor and a second current limiting device. Claim 57 further recites the switching circuit is configured to switch the first current limiting device into circuit when the first loving capacitor is reset during a positive half AC flow cycle and wherein the surging circuit is configured to switch the second current limiting device into circuit when the second snubbing capacitor is reset during a negative half AC flow cycle. Support for added claim 57 may be found in at least Figures 9-13. Thus, no new matter is added.

The prior art record, including Ferencz, fails to disclose an AC switching circuit. The prior to record fails to disclose an AC switching circuit that includes a first and second current limiting devices that are switched into circuit during associated half cycles of AC flow. Thus, claim 27 is presented for consideration and allowance.

F. Claim 59

Claim 59 depends from claim 53 and recites that the switching circuit is configured to supply initial power to the control circuit. Support for added claim 59 may be found in at least Figure 14. Thus, no new matter is added.

The prior art of record, including Ferencz, fails to disclose a switching circuit configured to supply initial power to the control circuit. Thus, claim 59 is presented for consideration and allowance.

IV. Conclusion

After amending the claims as set forth above, claims 1, 7-20 and 30-59 are now pending in this application.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 08-2025. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 08-2025. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 08-2025.

Respectfully submitted,

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